

White Paper Report

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**National Endowment for the Humanities – We the People
Grant**

The Grand Emporium of the West project

Project director(s): Dr. Brett Oppegaard / Dr. Dene Grigar

Grantee institution: Washington State University Vancouver

Date submitted: April 7, 2014

Narrative Description:

The Grand Emporium of the West project created and investigated new forms of m-Learning, based on matters of historical significance, delivered through mobile technologies, and focused on the emerging affordances of the medium. Development of this project began in March 2012 -- with planning, initial user tests, and early prototypes -- triggered by this NEH “We the People Grant” investment. The grant supported the research team’s work in this area, but it also led to the development of new material, tools, and approaches for secondary schools to teach and learn about history, through apps (available for both Apple and Android tablet computers). The grant not only generated a significant burst of new multimedia material – integrated into the tablet apps but also repurposed into related smartphone apps, with the media, when appropriate, geolocated at the primary research site, the Fort Vancouver National Historic Site in Vancouver, WA, but it also served as a major catalyst for additional funding, larger collaborations with the National Park Service, educational advancements, more app development, and nationally and internationally distributed scholarship. Through this NEH grant, and the earlier Digital Start-Up Grant (HD 51330-11), WSUV and Fort Vancouver have become an epicenter of internationally significant research and innovation related to mobile media and mobile learning, generating free and accessible mobile apps, for the general public, while also advancing the digital humanities field in several demonstrable ways, which will be outlined in this report.

Project activities:

Major activities that occurred during this granting period included:

- The public launch of the Grand Emporium of the West 1.0 apps (for Apple and Android devices), with more than 30 interactive learning activities and discussion prompts related to pioneer history, particularly associated with the site history of Fort Vancouver (in present day Vancouver, WA), in the mid-1800s. These activities come from many different perspectives and include approaches to learning the history in hands-on ways, particularly in terms of building original media about the history – or related to the history, or inspired by the history – all contained**

- within the tablet computer, with multiple ways to share that media with classmates.
- **Field testing of these apps on teachers (in focus groups), students (in formal classrooms), and members of the public (at various community events). This kind of outreach and research will be continuing for the foreseeable future as we work to better understand the ways in which tablet computers can be used for learning, especially for learning history, at the middle / high school levels.**
 - **Formal academic presentations about this project were given to attendees at the annual International Communication Association main conference as well as its preconference on Mobile Communication, Community and Locative Media, both of which were held in London, plus the annual Pacific Northwest History Conference, and numerous guest lectures on this topic on both the Pullman and Vancouver campuses of Washington State University, and in the area locally.**
 - **Academic articles have been written about this project, or about ideas related to the research conducted on this project, such as: “Going Mobile: Changing the Face of Interpretation in the National Park Service,” with co-author Greg Shine, in the *Federal History Journal*, 6(1); “Mobilizing the past for the present and the future: Design-based research of a model for interactive, informal history lessons,” with co-author Sola Adesope, in the *Journal of Teaching and Learning with Technology* 2(2); and are accepted for publication and forthcoming: “Mobile Media Alignment Theory for an Augmented Reality,” in the book *Augmented Reality*, edited by Sean Morey and John Tinnell. Parlor Press; “Mobility matters: From new media to a new medium,” in Lorenzo Cantoni and James A. Danowski (eds), “Communication and Technology,” *Handbooks of Communication Science*: De Gruyter Mouton; and “Proximity: Revealing the new mobile meanings of a traditional news concept,” with co-author Michael Rabby, in the journal *Mobile Media and Communication*, all of which are expected to be published either in 2014 or in early 2015.**
 - **The National Park Service designated this research a “National Call to Action” project, meaning it has special priority in terms of resources, funding, and in-kind support. It has been designated as a leading model for a service-wide initiative dubbed, “Go Digital!” And it has been aligned with the agency’s General**

- Management Plan (GMP) and Long Range Interpretive Plan (LRIP), meeting or exceeding National Park Service standards.**
- **Additional grant funding was provided by both the Clark County Commissioners and Washington State University, plus significant in-kind contributions from the National Park Service as well as new researchers, who have joined the project in process, including expanded contributions from nearly every member of the Creative Media & Digital Culture faculty at WSU Vancouver.**
 - **The project was woven into the curriculum of Digital Storytelling, Reporting Across Platforms, and other classes at WSU Vancouver, integrating dozens of students into the research and production processes.**
 - **Because of this project's successes, and the related successes of the smartphone app, Fort Vancouver Mobile, a permanent installation exhibition of the two has been constructed at the entrance to the Fort Vancouver visitors' center, displaying the video artifacts of this effort. This exhibit features a cabin-like wall, with a window, that allows the visitors to the center to look out of the window at the history, or the mediated action generated by the projects (through the various videos).**
 - **The development has continued of the behind-the-scenes Fort Vancouver Mobile blog, www.fortvancouvermobile.net, which has attracted more than 40,000 page views, as well as the related Twitter channel for @brettoppegaard, with more than 350 followers.**
 - **New media mentions of such grant-related activities in 2013 (complementing the many earlier mentions) included the following:**

The Future of Information Alliance, University of Maryland, Dec. 2, 2013, "Engaging with History: Keeping the Stories Alive and Lively," 34:12 – 40:02. Link: <http://goo.gl/7IU7B5>.

MobileCollectives blog, June 2013, "What's the (mobile) story? A conversation with Jason Farman." Link: <http://goo.gl/ZDyTu0>.

Humanities Insights (NEH Blog), May 10, 2013, "Technology and the Humanities: The Fort Vancouver Mobile app." Link: <http://goo.gl/1eP74U>.

Leonardo, Vol. 46, No. 2, 2013, "Review of Debates in the Digital Humanities." Link: <http://goo.gl/uF3912>.

Federal History Journal, winter 2012-2013, “Hawaiian identity in the Pacific Northwest at Fort Vancouver.” Link: <http://goo.gl/JgHfy>.

National Park Service News, May 15, 2013: “Partnership Project Honored with Annual Award from State of Washington.” Link: <http://goo.gl/LBi3F>.

Washington State Department of Archaeology and Historic Preservation, May 15, 2013: “SHPO Awards: Outstanding Achievements in Historic Preservation.” Link: <http://goo.gl/JHKzX>.

National Endowment for the Humanities Congressional and White House Affairs blog post, May 10, 2013. Link: <http://goo.gl/NvqXD>.

Accomplishments:

The expansion of the Fort Vancouver Mobile project into a tablet form has led to many accomplishments, discoveries, and increased opportunities, such as:

- **The Grand Emporium of the West apps (and the Fort Vancouver Mobile apps) have become federal models for the National Park Service, which has led to further collaborations with the agency at Yellowstone National Park, and collaborations with other place-based interpretation entities, such as the U.S. Army Corps of Engineers (at Bonneville Dam) and the Blackfeet Tribe (at the tribal cultural center in Browning, MT).**
- **The “We the People” Grant not only produced new material for the Grand Emporium of the West apps; those new media artifacts also were repurposed into the smartphone apps (Fort Vancouver Mobile) and into a visitors center exhibit and even shared individually, through YouTube/Vimeo video streams.**

In terms of objectives of the application, all major proposed production pieces and objectives were completed. After the grant funds were received, the research team designed an interface and activities and discussion prompts based on the material deemed most important for learning about pioneer life at Fort Vancouver in mobile ways. Each activity and discussion prompt was thoroughly vetted for its educational properties, by pedagogical expert Sola Adesope, PhD, and his graduate student, Josh Lloyd. They also were vetted for their interactive capabilities by the digital media experts – co-PIs, Dr. Oppegaard and Dr. Grigar – with the intent to enhance motivation and engagement through media production and media sharing facilitated by

the tablet computer. An example of the media production of Grand Emporium is the parody food show, “Seabiscuits,” <https://www.youtube.com/watch?v=8AbjJsm4S-c>, designed to play off of the food channel’s conventions while showing kids, in an entertaining way, what pioneers ate and how they prepared such crucial staples as the seabiscuit. In that example, students are given the seabiscuit recipe and are asked to make their own versions of the hardtack, at home, and to share their favorite ways to prepare it. In another activity, students are asked to examine the diet of the pioneers and make comparisons to their contemporary eating patterns. Such analytics includes a calorie count and a challenge to eat “like a pioneer” for a day. Discussion prompts include the generation of ideas for other kinds of food that can be stored for long periods, during lengthy voyages, like what it would take to reach Mars, and to account for what would need to be brought on such a trip.

Each of the eight tablet “stations” offers a similar video prompt and a complementary range of activities and discussions to explore, based on the prompt but also intended to circulate among the ideas the students generate themselves.

Regular review of the work was provided by Fort Vancouver National Historic Site staff, including Chief Ranger Greg Shine, who co-taught the Digital Storytelling class, and the advisory board of academics and historians. Usability testing and comparative prototyping of the app was conducted by Dr. Oppegaard and his research assistants.

Audiences:

The audiences for the Grand Emporium of the West apps are intended to be secondary students in classrooms nationwide, in middle schools and high schools. But without the support of teachers, those students would not likely get the chance to try the apps. So some of our initial outreach has been to teachers in our local area (in the Portland, OR, metropolitan region) to try to determine what teachers might like about the apps (as points to emphasize in marketing) and what they might not like (problems to fix). Initial focus groups have provided a lot of feedback already for future app iterations. They have shown a distinct interest in what we’re trying to do. Yet there also has been a significant issue that has arisen, in the sense that teachers already are getting enough changes thrown their ways, from regularly shifting

assessment goals, to a continual stream of new programs and initiatives. The more different our apps look, in terms of structure, and learning goals, the more resistance we are likely to face on the teacher level. Administrators, at least in the anecdotal interactions we have had with a small, convenience sample of them, appear open to trying new things. But some of the teachers we have contacted so far have tried the app and quickly diverged from larger issues, such as new ways to learn with tablet computers, into pedantic discussions, such as, should these be lists of objectives in the app be called “learning goals” or “learning targets”? From these samplings, we have learned, in terms of audiences, that the Grand Emporium app, and tablet learning apps, in general, has many stakeholders to satisfy, and some of those gatekeepers, such as administrators and teachers, will need certain familiar and traditional signposts in place, before students will get a chance to even try the app on a large scale.

On the non-bureaucratic side, we also have been able to get the needed approvals on a local level and get the app into classrooms and into the hands of students, and, to a great degree, we are seeing that our ideas are working. Students are engaged with the app. They want to try it out, and they like the learning activities and discussion prompts.

These audience evaluation experiences have led to a few general conclusions about the project and its prospects:

- 1. Unlike other mobile app projects that aim to get the app right into the hands of the user, and to serve those users directly, this app project involves catering to many user groups, with divergent goals, and with differing levels of contact with the apps, from administrators to teachers to students to parents. Future iterations of the Grand Emporium app should take into account those different groups and try to provide support for each, so each group understands the goals of the app, and how it works, on the levels in which they are engaged by it.**
- 2. Significantly more marketing and promotion efforts likely will be needed to dramatically increase the app audience size. Like with the Fort Vancouver Mobile app, getting the word out about a**

mobile app, amongst the App Store / Play Store noise, is a major endeavor. While EDSITEment certainly will be able to help, the app needs to build some word-of-mouth buzz and to get teachers trying it, so additional resources will be needed to spread the word. After more local testing and refinement, we plan to seek out additional grants to help implement new programs into schools that will get the app more use but also introduce the app to wider communities, with the intention of helping more people know about its availability. But because of the nationwide goal of distribution and use, a larger network of promotion will be essential, once the Grand Emporium app has completed its beta stage.

3. More and more classrooms are adopting tablet computers and trying to integrate those into their curricula. Teachers seem to want to use the tablet computers, but they also generally speaking are not technologists, so there are limits to the leaps many teachers will take with the technologies, from well-understood and regulated forms, like books and handouts. If the technology, or program, seems to get in the way of the learning in any unfamiliar ways, it appears, there is little leeway for teachers to try working through the issues. There just is too much to do in a typical school day, and not enough time. Therefore, simpler, and more straightforward ideas are likely to be better received than complex and innovative ones, even if the latter turns out to have more long-term potential. Because of that perceived dynamic, more front end communication probably will be needed to make sure test subjects understand and appreciate the experimental nature of the project, or other such projects should work on smaller, more incremental goals.
4. A deeper user profile should be created via app analytics, as a way to develop more precision and direct data feedback to the iteration cycle. This is technically possible and would be relatively simple to implement pragmatically. But, politically, and philosophically, more discussions about user privacy need to take place with the school districts, and teachers and administrators, and any additional information gathered about users would need to be clearly identified to the users, as they choose to use the app, creating a tension that could lessen usage because of such privacy concerns.

Evaluation:

The Grand Emporium of the West tablet app has been developed and evaluated in close collaboration with the National Park Service, whose information is the basis of the learning activities and discussions, and with representatives of local school districts in Clark County, WA. The National Park Service had a specific liaison focused on the project, Chief Ranger Greg Shine, with additional oversight provided by the superintendent of Fort Vancouver, Tracy Fortmann, plus numerous other staff members, who directly reviewed and provided feedback as well. School districts involved in the prototype development included the two largest in the county, Vancouver School District and Evergreen School District, as well as a suburban district, Camas, and a rural district, Battle Ground. The core Creative Media and Digital Culture faculty members at Washington State University Vancouver also have been involved in evaluation of this project at every level. These evaluations have included detailed feedback via email exchanges, conference calls, and faculty meetings, and, at this point, there has been no issue raised that could not be solved through conversations and hard work.

Besides the strengths of this project, and some of the weaknesses, many of which have been covered already, other evaluation points to note:

- The Grand Emporium of the West project has become a community asset, and a source of community pride. School district administrators, teachers, and students all were eager to evaluate and support a program that originated within this community. That stance also raises questions about how this program will be received in other communities, with less direct ties to Fort Vancouver, and the pioneer era history, but it also demonstrates the ways in which community media from areas outside of the usual suspects of New York, Chicago, Los Angeles, etc., can make meaningful contributions to society.**
- By working in this medium, of the tablet computer, important experience and expertise was gained that will allow this research and development team to explore many of the new ideas generated during this research process. For example, because of this positive work with the Fort Vancouver National Historic Site,**

Yellowstone National Park contacted our research team and has been working on ways we could develop more mobile informal science learning activities through tablet computers in the world's first national park.

- **More observations of app use, usability testing, and focus groups would be beneficial.**
- **Technological maintenance of the app, upgrading and updating, will be an ongoing issue, which will need additional funding and attention. Conversations have been started with the National Park Service about that concern.**

Continuation of the project:

The Grand Emporium of the West project, with the support of the NEH, has become a legacy project for faculty members at Washington State University Vancouver and staff members at the Fort Vancouver National Historic Site. It has been built to grow and thrive for many years to come. The multimedia design has been structured to withstand many generations of technological advancements, through Google glasses-like augmented headwear to computerized contact lenses and beyond, focusing on the media prompts and learning activities. The Clark County Commissioners, through their Historical Promotion Grant program, and WSU Vancouver already have committed new grants to future iterations of this project, and more grant proposals and new partnerships, such as developing relationships with even more school districts, are being cultivated this year to ensure long-term stability and success of this effort. The Fort Vancouver Mobile blog, www.fortvancouvermobile.net, which also will be the home for information about the Grand Emporium app, continues to be updated and to include current information on all aspects of this project as it evolves and grows in future years.

Long-term impact:

The Grand Emporium project already has generated many new pieces of durable digital media that can be repurposed and reused for many years to come for learning purposes. This media, for example, is featured in the new and permanent visitors center exhibit about Fort Vancouver Mobile and the Grand Emporium of the West, which takes up a wall at the entry to the center, and serves not only as a vehicle for sharing the media but also as a constant marketing tool for the work.

Several other new modules of related learning material are under development, including pieces about Moses Williams, one of the first African-American Medal of Honor winners, who spent his final days at Fort Vancouver.

Grant products:

Here are links to the primary grant-funded products of this research:

- The Grand Emporium of the West app:

Apple

<https://itunes.apple.com/us/app/the-grand-emporium/id797642451?ls=1&mt=8>

Android

<https://play.google.com/store/apps/details?id=org.radiojoe.grandemporium>

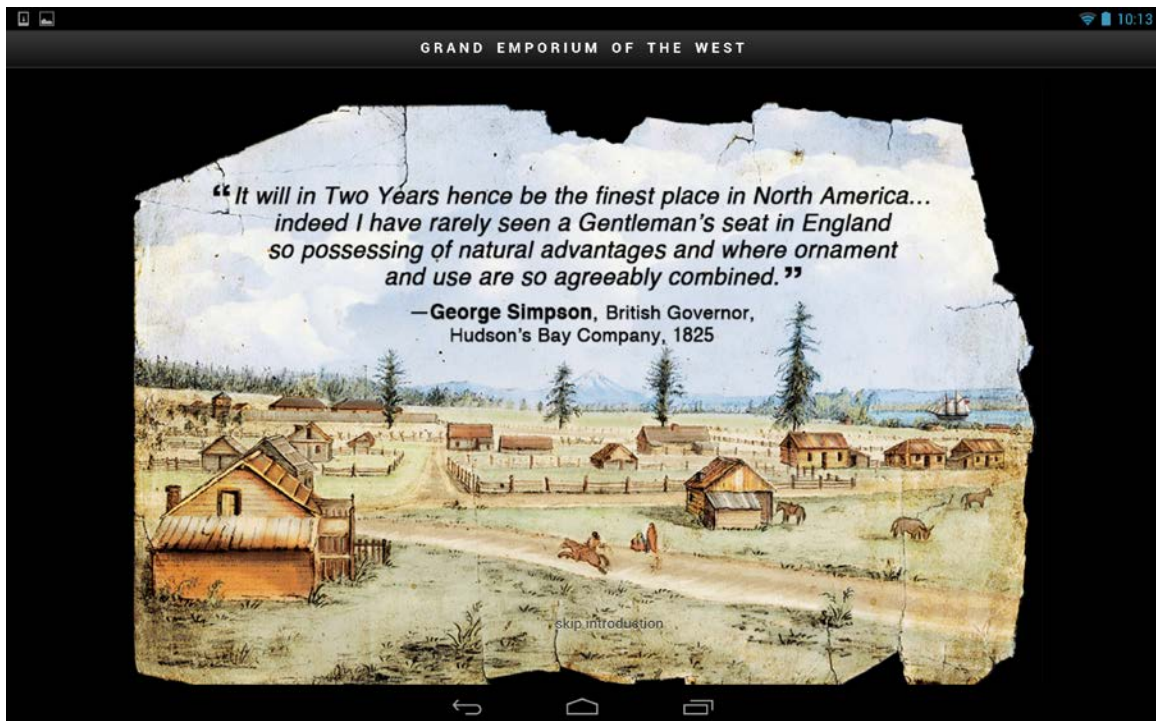
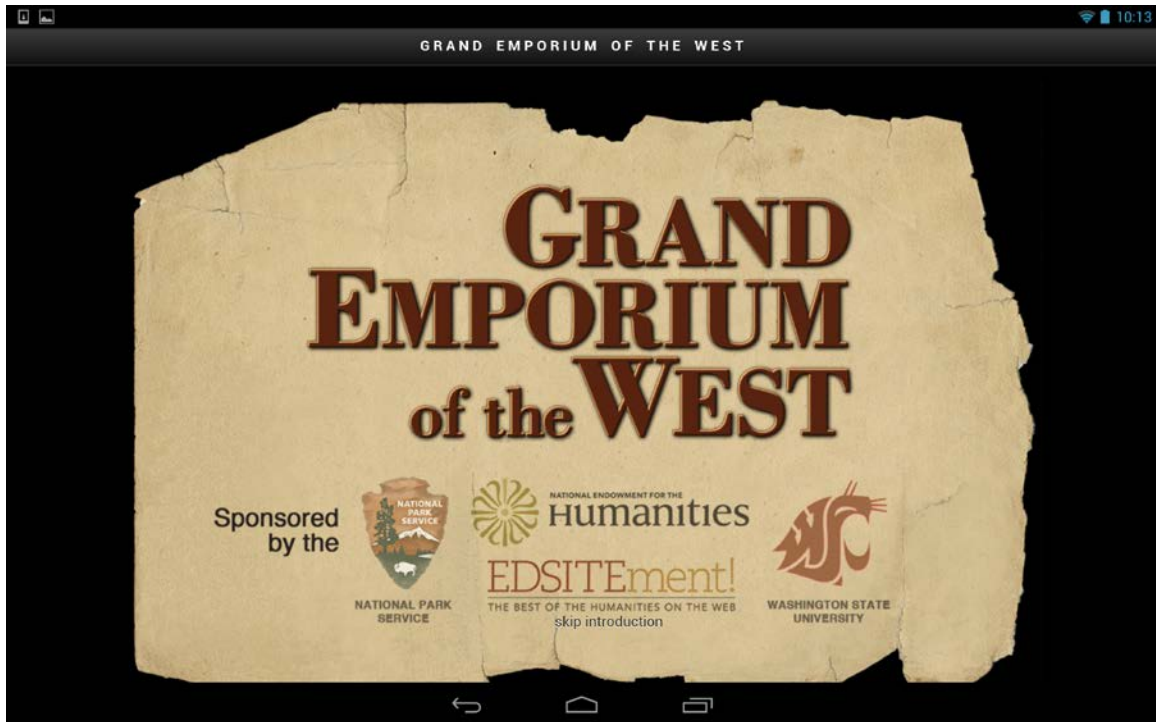
- Grand Emporium videos:
 1. GEW intro: <https://www.youtube.com/watch?v=S7-aCkVKAW0>
 2. Seabiscuits: <https://www.youtube.com/watch?v=8AbjJsm4S-c>
 3. Paul Kane's Wanderings: <https://www.youtube.com/watch?v=tIijQb-P2XU>
 4. Old Apple Tree overview: <https://www.youtube.com/watch?v=wTGnWOOYABE>
 5. Maps and drawings: <https://www.youtube.com/watch?v=T2x4vrBL4-U>
 6. Women in the Village: <https://www.youtube.com/watch?v=PPYGWZNQheQ>
 7. Voyageur song: <https://www.youtube.com/watch?v=IBXuczkbLEY>
 8. Quiz animations: Thimble, <https://www.youtube.com/watch?v=wkT-WXBuKUs>, s-hook, <https://www.youtube.com/watch?v=n3MjlgmH8hA>, razor, <https://www.youtube.com/watch?v=hOxLxMnwR50>, ink bottle, <https://www.youtube.com/watch?v=14imB4MnI8k>, dominoes, https://www.youtube.com/watch?v=ym7m_g6rutk.
- Entries on the Fort Vancouver Mobile blog, www.fortvancouvermobile.net.

- **Entries on the accompanying research blog, MobileStorytelling.net, www.mobilestorytelling.net.**
- **Twitter channel content at @dgrigar and @brettoppegaard**
- **Formal academic presentations at:**
 - 1. The International Communication Association main conference in London.**
 - 2. The International Communication Association preconference on Mobile Communication, Community and Locative Media, in London.**
 - 3. The Pacific Northwest History Conference in Vancouver, WA.**
 - 4. Council for Advancement and Support of Education (CASE) VIII conference in Portland, OR.**

Appendices:

Appendix 1:

Sample screen shots







Huzzah! Food basics, just like that



Sea biscuits and other dried foods, such as jerky, were vital to the residents of Fort Vancouver. In a time before refrigeration, having food that wouldn't spoil was necessary for survival. Upon the founding of the fort, fresh food was scarce. But an emphasis on agriculture in the area eventually allowed residents to eat regularly, with sea biscuits as a major staple, especially in the lean times.

Battle of the Sea Biscuits

 Indestructible, or edible?

Eat like a pioneer

 What choices did they have?

GRAND EMPORIUM OF THE WEST

Buried relics, church records, and found objects

The wooden palisade around Fort Vancouver was built not only as a protective structure but also to segregate the classes. Just a few wealthy European gentlemen and their families lived on the inside, while hundreds of others lived outside the walls. The Fort was never attacked, and the British had friendly relationships with the natives in the area. Intermarriage among the various ethnic groups was common. Items left behind from this time period show us how different life was for those who lived outside the stockade walls.

Oldest thing in the room
 What do your things say about who you are?

Your great-great-great ...
 What are the tools of the age?

Grand Emporium of the West - Introduction

Recons

Putting Fort Vancouver into context

Fort Vancouver was both a supply depot and the regional headquarters of a major international fur-trading corporation, but it also was an agricultural operation that fed and sustained the largest settlement of non-native people in the Pacific Northwest in the mid-1800s. This place brought together English, French-Canadians, Scottish, Iroquois, Hawaiians, and members of dozens of native tribes, harmoniously living together and speaking a common trade jargon. Although Fort Vancouver's stockade might look like a fortress, with its tall wooden palisades, it actually was more like a big box department store, surrounded by a security fence. No battles happened here, and the tribal members protected it. Why do you think Fort Vancouver was such a relatively peaceful place?

Research this trading post's history on the [Internet](#) to find out more about its social dynamics. Share with your classmates what you find through the Collaborate button below, in which you can work together on a shared document. Login to Google Docs first. Then, as a group, piece together the important ideas and facts to create a larger tapestry of knowledge about this special site. Maybe each of you could pick a piece of the story to tell. Then, go exploring the rest of this app.

COLLABORATE
 GUIDE

GRAND EMPORIUM OF THE WEST

Once was lost; now is found

inkbottlescene1

YouTube

Watch the video to the left, and then pick, from the options below, what you think the object in the video was:

Ink bottle

Medicine bottle

Perfume bottle

Salt shaker

GRAND EMPORIUM OF THE WEST

Paul Kane: Life, as he saw it

Paul Kane was a prominent artist from Toronto, who stopped at Fort Vancouver for a few months in 1846. Kane traveled extensively throughout North America, sketching and documenting Indian cultures and natural landscapes, including preserving imagery and ideas about life on the frontier.

A mindful walk down Main Street

Why here?

Then and now, comparing historic eras

How would you represent?

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Appendix 2:

Article 1

Journal of Teaching and Learning with Technology, Vol. 2, No. 2, December 2013, pp. 90 – 113.

Mobilizing the past for the present and the future: Design-based research of a model for interactive, informal history lessons

Brett Oppegaard¹ and Olusola Adesope²

Abstract: Informal history education, including many popular museum learning studies, have shown that mobile media objects, such as apps, quickly could become critical parts of the predominate learning technologies of the future. In the process, this could lessen the overall pedagogical focus for history education on aural transmission, such as lecturing, as well as traditional media delivery systems, such as printed books. Having “an app for that,” though, is just the start of the process of developing effective, efficient, and evocative learning systems. This case study describes a National Endowment for the Humanities-funded mobile app designed in situ and deployed at a National Historic Site with the goal of creating a mobile learning model for the National Park Service. An evaluation of the app module was conducted using a LORI-scale to assess the efforts as they related to informal history learning objectives. This evaluation identified potential best practices for the design of these types of mobile apps, such as interactive activities enabled by the mobile technology, as well as opportunities for improvement in the design of such learning systems.

Keywords: mobile, app, design, design-based research, national historic site.

I. Introduction.

While most of adult learning already happens informally, students of all ages increasingly are becoming disassociated from the teaching and learning of institutional educational contexts (Jones, Scanlon, & Clough, 2013; Lim, Zhao, Tondeur, Chai, & Tsai, 2013). Educators, in turn, have begun reaching out and exploring the potential of mobile technologies as ways to reconnect with learners, through emerging mobile systems that offer powerful pedagogical tools, flexible student scaffolding support, and engaging delivery platforms. Anytime and anyplace, educators suddenly can commune with a learner, without traditional boundaries of time and place, or with the added richness of specific times and places. Mobile technologies have affordances that can expand access to learners in authentic contexts, in which learners continually connect with accessed information, or theoretical knowledge, with the situated knowledge of the environment (Martin & Ertzberger, 2013). Such integration of mobile technologies into varied learning contexts – both traditional and nontraditional – requires organizational shifts while also demanding innovations that expand openness and responsiveness to new learning environments; these are major changes that many organizational frameworks can be slow to embrace (Cavanaugh, Hargis, Munns, & Kamali, 2012). Despite such potential, though, the combination of mobile technologies and informal learning structures has received relatively miniscule academic attention, especially from researchers approaching the topic with a design-based perspective (Jones, Scanlon, & Clough, 2013). Scholars also have spent a lot of time and effort understanding early formative stages of app design as well as final stages of deployment (Kim,

Appendix 3:

Article 2

Going Mobile: Changing the Face of Interpretation in the National Park Service

Brett Oppegaard and Gregory P. Shine

Across cultures, even in ancient times, people gathered at locations of historical importance to learn about—and to commune with—the place.¹ From petroglyphs to augmented reality, for pleasure and for profit, interpretive services have been developed in many media forms over the millennia, encouraging various activity modes.² Today, federal history agencies of all sorts are responsible for rendering these built environments, to provide heritage interpretation, or localized educational activities.³ Visitors to these historic sites inherently arrive with a latent desire to learn, craving greater depth of understanding, and seeking interaction, entertainment, dialogue, engagement, and motivation.



ect.

In an attempt to serve those diverse needs, heritage sites worldwide have designed

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¹ While a comprehensive review of the development of mediated interpretive technologies is well beyond the scope of this article, helpful overviews of those topics can be found in John Towner, *An Historical Geography of Recreation and Tourism in the Western World 1540–1940*, Hoboken, NJ: John Wiley & Sons, 1996; John K. Walton, *Histories of Tourism: Representation, Identity, and Conflict*, Vol. 6, Bristol, UK: Channel View Publications, 2005; Dimitrios Buhalis and Rob Law, "Progress in Information Technology and Tourism Management: 20 Years on and 10 Years after the Internet—the State of Etourism Research," *Tourism Management* 29, no. 4 (2008): 609–23.

² Multiple authors also cover diverse aspects of the historical context of technology at heritage sites in the compilation edited by Loïc Tallon and Kevin Walker, *Digital Technologies and the Museum Experience: Handheld Guides and Other Media*, Lanham, MD: Altamira Press, 2008.

³ David L. Uzzell, "Interpreting Our Heritage: A Theoretical Interpretation," in D. L. Uzzell and R. Ballantyne, eds. *Contemporary Issues in Heritage and Environmental Interpretation: Problems and Prospects*, London: The Stationary Office, 1998, 11–25.